

RECTIFICATION OF *Amphoediceros willisi* FEARN-WANNAN (1968) GENUS AND SPECIES REMOVED TO *Paramoera* MIERS (1875)

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ABSTRACT: *Amphoediceros willisi* Fearn-Wannan (1968), originally described as a new species in a new genus in the family Oedicerotidae, is removed to the pontogeneiid section of the Eusiridae and relegated as a valid species to *Paramoera* Miers (1875). *Amphoediceros* becomes a synonym of *Paramoera*.

Amphoediceros (new genus) *willisi* (new species) was described by Fearn-Wannan (1968) in the Oedicerotidae. We have re-examined the holotype and a paratype in the Museum of Victoria and find that this species belongs with the pontogeneiid group in the genus *Paramoera* Miers (1875), a common Pacific and antiboreal genus with 35+ species. The species is minutely distinct from any other described as based on non-serrate epimera, small gnathopods with short unlobate wrists, very oblique palms, lack of cephalic tooth, small rostrum, uniform pereopods, broad, deeply excavate coxa 4, lack of body teeth, deeply cleft telson, and strongly setose inner plates of the maxillae. In addition, this species has one character we have not noticed before in the literature: the presence of two strong setae (instead of one) on the mandibular molar of each side.

LEGENDS

Capital letters refer to morphological parts as follows: A, antenna; C, coxa; D, dactyl; F, accessory flagellum; G, gnathopod; H, head; I, inner plate or ramus; J, incisor and lacinia mobilis of mandible; K, calceolus; L, labium; M, mandible; N, peduncle; O, outer plate or ramus; P, pereopod; Q, pleopod; R, uropod; S, maxilliped; T, telson; W, pleon; X, maxilla; Y, coupling hooks on pleopod; and, Z, gill.

Lower case letters to the right of capitals or in the body of the drawing are descriptive: r, right; s, setae removed; t, left; and, v, ventral.

SYSTEMATICS

Paramoera, new synonymy

Paramoera Miers, 1875: 75 (*Paramoera australis* Miers, 1875, here selected).

Stebbingia Pfeffer, 1888: 110 (*Stebbingia gregaria* Pfeffer, 1888, monotypy).

Aucklandia Walker, 1908: 35 (*Aucklandia enderbyi* Walker, 1908, monotypy).

Amphoediceros Fearn-Wannan, 1968: 44 (*Amphoediceros willisi* Fearn-Wannan, 1968, original designation).

Rostrum small to medium; eyes reniform (rarely vestigial); lateral cephalic lobes well developed, not sinusoid. Antennae of medium length, antenna 1 slightly longer than 2, articles 1-3 lacking teeth, progressively shorter or

article 2 not longer than 1, accessory flagellum small but articulate; calceoli of pontogeneiid type 4 (Lincoln & Hurley, 1981), present on both pairs of antennae.

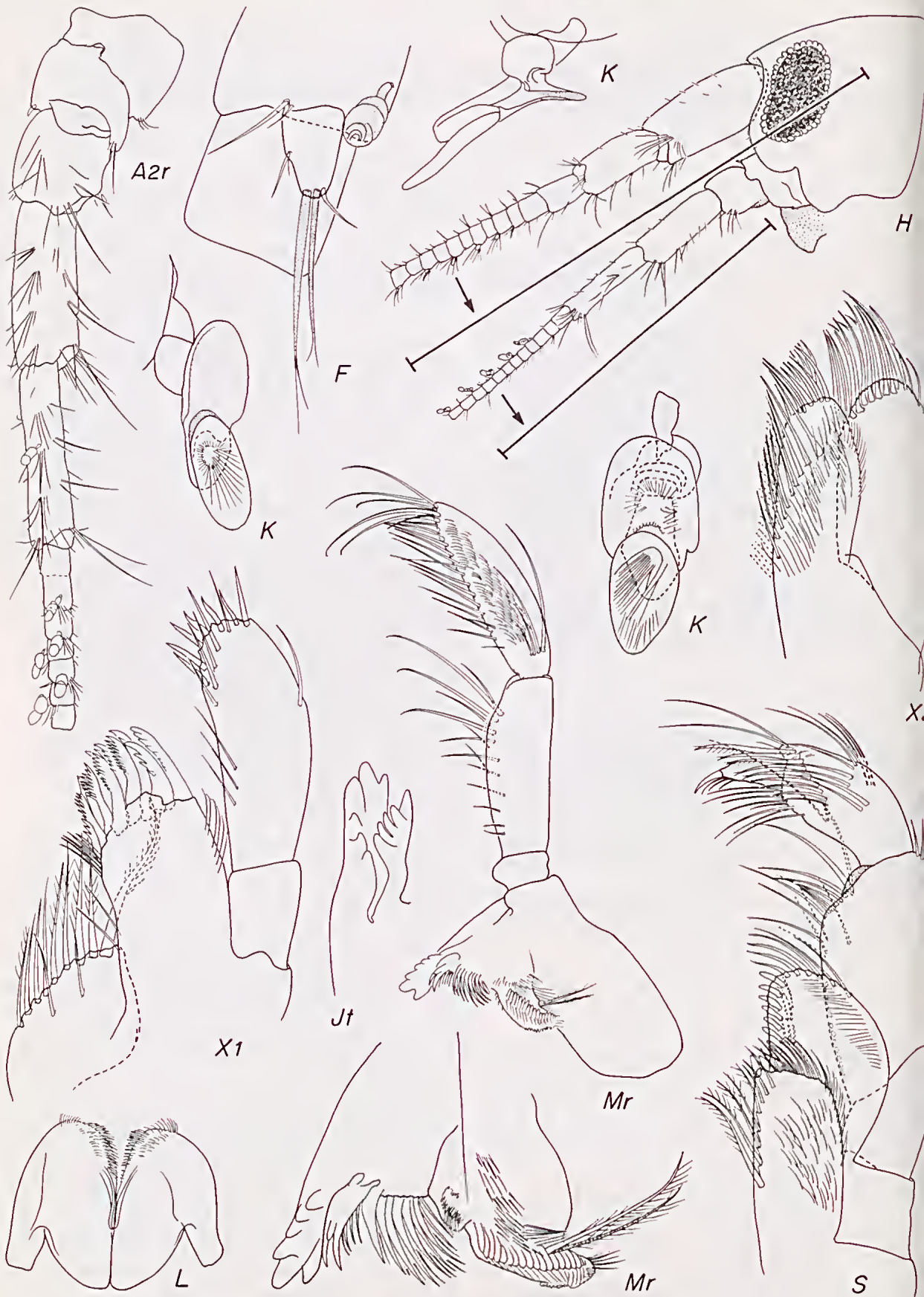
Labrum rounded below, epistome not produced. Incisors well toothed; laciniae mobiles distinctive, right bifid, left plate-like and toothed; molar well developed, tritritative, palp of medium size, article 3 scarcely longer than 2, scarcely falcate, setal formula = ACDE or ADE. Inner lobes of labium absent. Inner plate of maxilla 1 setose medially, outer plate with 11 spines, article 2 of palp weakly asymmetrical. Plates of maxilla 2 subequal, inner with oblique facial row of setae. Palp article 3 of maxilliped often with weak hump, dactyl unguiform, with apical spine.

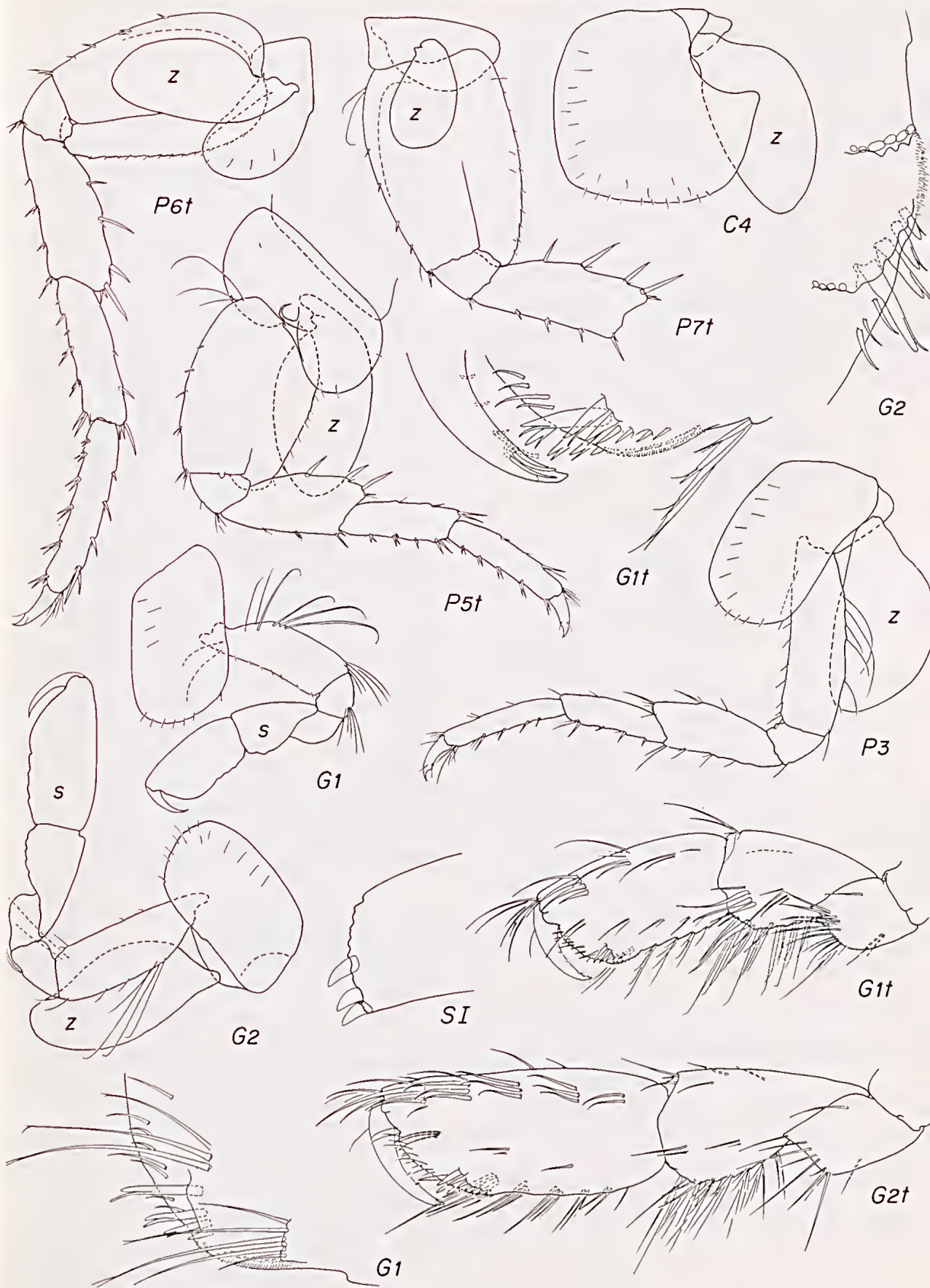
Coxae 1-4 evenly extending, coxa 4 strongly excavate, or not; gills on coxae 2-7. Gnathopods weak to moderate, subchelate, palms transverse to oblique, defining spines present. Pereopods slender, normally elongate, article 2 moderately expanded, no special lobes.

Uropod 3 scarcely exceeding uropod 1, ventral process on peduncle weak. All rami of uropods well spinose. Telson slightly elongate, cleft, apices weakly to moderately notched, some setae long.

RELATIONSHIP: Fearn-Wannan (1968) originally placed *Amphoediceros willisi* in the Oedicerotidae, but the pontogeneiid character of the calceoli and lack of fossorial attributes (including elongation and strong setosity of pereopod 7) suggests that this genus belongs with the greater eusirid group, divisible, on the basis of calceolar structure, into pontogeneiid and eusirid subgroups. The form of the calceoli places this species in the pontogeneiid group of Lincoln and Hurley (1981). No special characters of Paracalliopiidae or Exoedicerotidae are present, the weak and poorly-rotatable gnathopods being of the pontogeneiid kind.

Though the rostrum is usually small, this species fits our new diagnosis of *Paramoera* above. It cannot be placed in *Prostebbingia* because of the presence of an articulate accessory flagellum; nor in *Gondogeneia* because of the reniform eyes and heavily-setose maxillae; nor in *Pontogeneia*; for the latter reason and because of the lack of an accessory flagellum; nor in *Antarctogeneia* because of the comparatively short carpi of the gnathopods; nor in *Tethygeneia* because of the absence of a large lobe on the carpus of gnathopod 2.





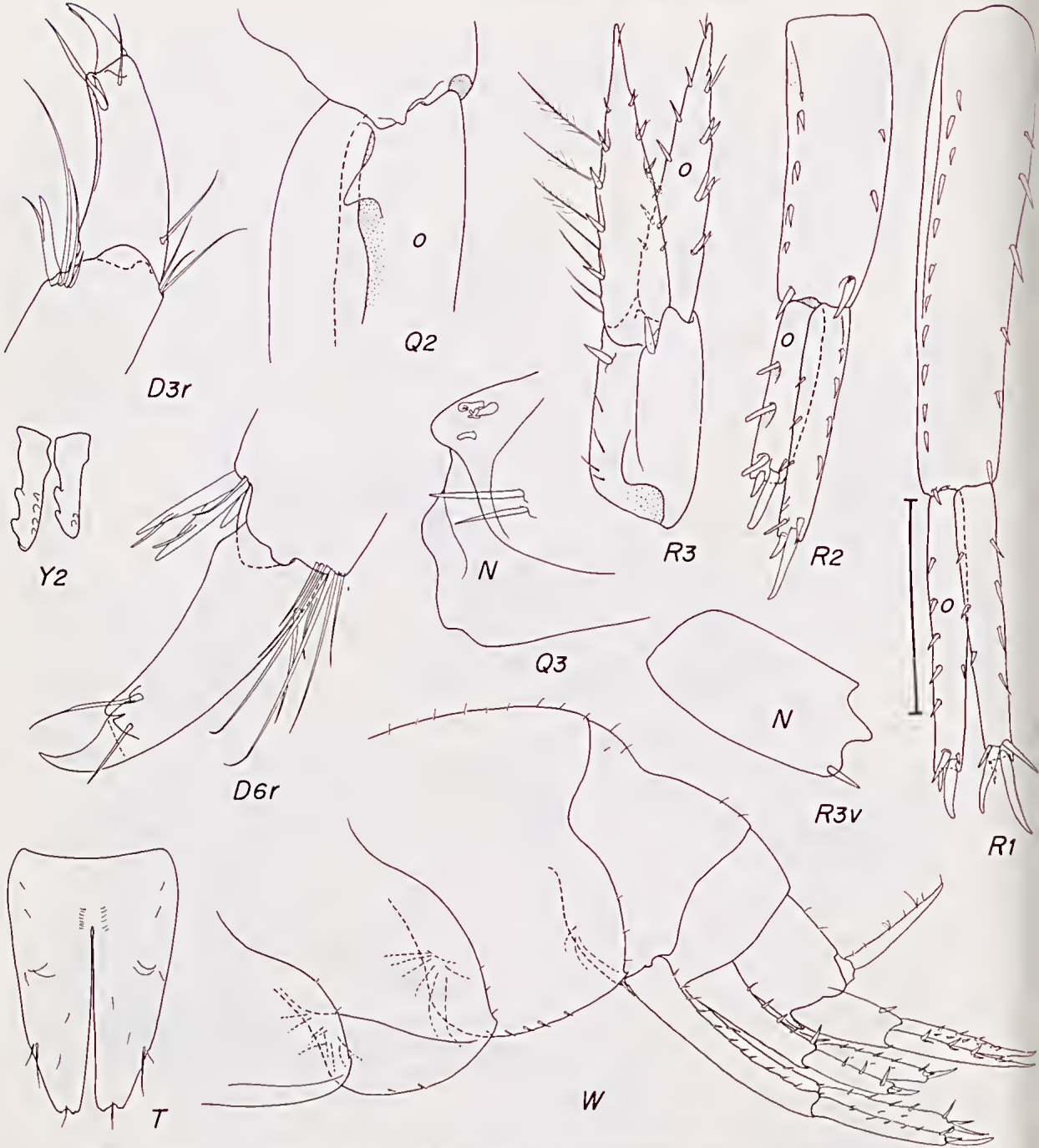


Fig. 3—*Paramoera willisi*, paratype male, 5.45 mm; line near R1=length of outer ramus on right uropod 1.

Paramoera willisi (Fearn-Wannan)

Figs 1-3

Amphoediceros willisi Fearn-Wannan, 1968: 44-50, figs 8-11.

DIAGNOSIS: Rostrum very small; eyes large and black; anteroventral corner of head blunt.

Inner plates of maxillae 1-2 with 9+ medial or facial setae. Article 3 of maxillipeds with apical hump.

Coxa 4 very broad, deeply excavate. Wrist of gnathopod 1 about 80 percent, of gnathopod 2 about 75 percent as long as hand, not lobate; hands uniformly rectangular, palms very oblique, defined by 7 spines medially.

Epimera convex behind, each with small posteroventral tooth, no other serrations; epimeron 2 with only 2 ventral spines.

Article 2 of pereopods 5-7 uniform, expansion and lobes of medium size.

Telson cleft about three fourths, each lobe with single apical notch, no other serrations, apical seta in each notch short, each lobe with pair of medium setae laterally, sub-basal setule pair at M. 45, other scattered dorsal setae present.

DESCRIPTION OF PARATYPE: Male, 5.45 mm, eyes purplish-black in alcohol. One calceolus on article 3 of peduncle of antenna 1 near base of accessory flagellum; calceoli on flagellar articles irregularly alternating in position, ventrally situated on articles 3, 5, 7, 9, 11, 13 (rudimentary on 15), medially on articles 4, 6, 8. Antenna 2 with one dorsomedial calceolus on article 5 of peduncle; flagellar articles with one mediodorsal calceolus each on articles 4, 6, 8, 10, 12, one medial each on articles 2, 3, 4, 7, 9, 11, 13, 15.

Bifid right lacinia mobilis with third crotch tooth, rakers about 7 with smaller interrakers, molar with basal chisel-hump and 2 molarial setae. Spines on right palp of maxilla 1 smaller than illustrated left maxilla 1. Inner plate of maxilla 2 bearing facial setae; inner margin lacking all but thin straw-setules. Inner plates of maxilliped with 3 stout apical spines; dactyl with accessory setules at base of nail.

Coxae 1-4 with fan of external facial setules. Pereopods 3-4 with one locking spine each, pereopods 5-7 each with 2; pereopod 4 smaller than pereopod 3. Propodi of gnathopods 1-2 with beaded callus behind defining corner on ventral margin.

Pleopods well developed, rami about as long as peduncle, outer scarcely longer than inner, length ratios of peduncle, outer ramus and inner ramus for pleopod 1, 60-65-60; pleopod 2, 62-62-60, pleopod 3, 53-59-56; each peduncle with 2 coupling hooks; apical peduncular spines on pleopods 1-3, 0-1-2; pleopod 3 also with blunt supernumerary finger-like spine apically; articles on outer and inner rami of pleopod 1, 14-11, pleopod 2, 14-12, pleopod 3, 13-11; setae on outer and inner margins of article 1 on outer and inner rami, pleopod 1, 7-2-1-5, pleopod 2, 5-2-1-5, pleopod 3, 4-2-1-5; on each pleopod, 3 of the 5 basomedial setae of clothespin type; outer ramus of each pleopod with locking cusp basally.

Each epimeron with convex posterior margin and weak posteroventral tooth, ventral spines on epimera 1-3, 0-2-5. Besides spines, medial margin of inner ramus on uropod 3 with several setae. Telson with 2 rows of dorsal male denticles.

ILLUSTRATIONS: Magnification of maxilla 2 much lower than of maxilla 1. Line next to outer ramus of uropod 1 representing same ramus on right uropod 1.

MATERIAL: Museum of Victoria J156, paratype, male, 5.34 mm, Port Phillip Bay, March 1963. Holotype observed but not dissected.

RELATIONSHIP: All 35 species, known to July 1985, of *Paramoera* and various dubious references to other possibly distinct species have been studied in the literature. *Paramoera willisi* appears to be distinct from all known species based on their modern concepts. Distinctions from some of the closer morphotypes are discussed below.

Paramoera willisi is not identical with:

P. australis Miers (1875) (see Stebbing, 1888) because of the lack of multiserrations on epimeron 3, the much more oblique palm of gnathopod 2, the much broader coxa 4, and the narrower article 2 of pereopods 5-7;

P. chevreuxi (Stephensen, 1927) because of the smooth posterior margin of the epimera and the shorter, unlobate carpi of the gnathopods;

P. rangatira J. L. Barnard (1972) because of the weak spination on epimeron 2, small rostrum and lack of large telsonic spine;

P. austrina Bate (1862) because of the more oblique palm on gnathopod 1 and the non-lobate carpi of the gnathopods;

P. austrina identification by Bellan-Santini and Ledoyer (1974) because of the broader coxa 4, oblique palms of the gnathopods, less robust propodus of gnathopod 1 and lack of cephalic tooth;

P. schellenbergi Nicholls (1938) because of the absence of a lobe on the carpus of gnathopod 2, more oblique palm of gnathopod 2, less robust propodi of the gnathopods and more strongly setose inner plates of the maxillae;

P. koreana Stephensen (1944) in the absence of cephalic tooth, stronger setation on the inner plate of the maxillae, deeper cleft of the telson, non-diverse article 2 of pereopods 5-7 and broader coxa 4;

P. brevisrostrata (Bulycheva 1952), (described in the genus *Pontogeneia* on the basis of poor setation on maxilla 2) in the lack of cephalic tooth and shorter carpus of gnathopod;

P. columbiana Bousfield (1958) in the shorter carpus of gnathopod 2, slightly deeper cleft of telson, stronger setation on maxillae, absence of sharp cephalic corner and deeply excavate broader coxa 4.

Paramoera willisi appears to be rather close to the widely distributed antiboreal *P. capensis* (Dana, 1853) (= *assimilis* Stebbing, 1888) but lacks multiserrations on the telson, has indistinctly lobate gnathopodal wrists, a more oblique palm on gnathopod 2, and article 2 of pereopods 5-7 is more weakly lobate.

The description of the east Siberian freshwater *P. udehe* (Derzhavin, 1930) fits *P. willisi* but many characters of that species are unknown.

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